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THOMAS G. NEWMAN,
EDITOR.

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Dr. Miller is done in "the half-tone process," and so appears in *Gleanings* for June. The Doctor looks quite natural, but we must say that we do not like that "process." There is not one picture in a dozen done in that way that suits our fancy. We would like to feel differently about it, if we could.

Rubbing a Sliced Onion over new tin is recommended for making labels stick to it when ordinary flour paste is used. Try it, and report how you find it to act after—say a month. We have tried several methods, but usually found that after a few weeks the labels would come off. Perhaps the onion will prevent this.

☞ The ILLUSTRATED HOME JOURNAL for June is as bright and charming as any of its preceding issues. The table of contents is so extensive as to make it out of the question to reproduce it in this note. The reading matter is all crisp and entertaining, and the illustrations are numerous and of a very pleasing character.—*Argus, Fargo, Dakota.*

☞ Minnie Wagner's letter published on page 379 of last week's BEE JOURNAL, refers to an accident to her father, but she failed to state his name, making the notice of no value. We are sorry to say that it refers to our friend, the Rev. Stephen Roese, of Maiden Rock, Wis. He had been moving some logs and one caught in a tree-top, swung around and caught his leg, breaking it in three places. He suffered agonies, no one being near at the time; after crying for help, the pain caused him to faint. Friends heard him a mile away—came to the rescue, and took him home. We are glad to report that he is now doing as well as could be expected.

Postage on Merchandise in the United States is one cent per once (16 cents per pound). Congress ought to reduce this at least one-half. In this branch of the postal business, the United States is behind every country in Europe.

In England, parcels are mailed at 6 cents for one pound, 9 cents for two pounds, etc. There is no reason in our paying such high rates, and the postage should be lowered immediately by Congress. An exchange makes the following suggestions which we endorse, and ask our readers to act upon *at once:*

A bill for this purpose was introduced in the House of Representatives last year by the Hon. W. W. Grout, of Vermont. But to insure a favorable report it is necessary to impress on the Members of Congress the fact that lower postage on seeds, plants, bulbs and merchandise is generally demanded by the public. Will the readers of this please write a personal letter to the Hon. Mr. Sawyer, who is chairman of the Committee on Post-Offices and Post-Roads, and to the Representative of their own district, and if possible one or more to the other Members of Congress, urging them to favor such reduced postage? The result of this law will be to save you 8 or 10 cents per pound on merchandise you buy by mail, thus enabling you to get goods at a reasonable price for transportation.

(Write a letter similar to this, fill out the name, and address it simply Washington, D.C., as follows):

Post-Office——, State——,
Hon. ——, Washington, D.C., June—1890

DEAR SIR:—I hope you will favor the bill to reduce postage on merchandise. The present rate, 16 cents per pound, is excessive. Eight cents per pound would be an improvement, and 4 cents only a fair price. I earnestly and respectfully urge that you will aid this reasonable request in behalf of the people. Also give us paper fractional currency for use in the mails, and money orders up to $5 for 3 cents.

Very truly yours,
——.

The International Fair and Exposition at Detroit, Mich., will be held from Aug. 26 to Sept. 5. At the request of the Association, we have consented to act as Judge of the Bee and Honey Department. Circumstances over which we had no control prevented our attendance last year. This was a disappointment to our many friends in attendance. We trust that nothing will intervene to prevent us from carrying out our engagement this year. We will state the day of attendance when we are informed about it—but presume it will be on Aug. 30 or Sept. 1.

Bees and Honey.—This work, by Thomas G. Newman, has just been revised. It has been largely re-written, and is fully up with the times. It contains 250 pages, and is well and fully illustrated. Of course, being published by Thomas G. Newman & Son, its typographical appearance and binding are par excellent. It is written in Mr. Newman's vigorous style, and fills an important place in bee-literature.—*Gleanings in Bee-Culture.*

Seasonable Hints for Beginners are given in the *Intermountain Horticulturist* for June, published by John C. Swaner, in Salt Lake City, Utah. Under the heading of the "Production of Comb Honey," Mr. John H. Snider (a correspondent) remarks as follows:

When the honey-flow commences, put on the super, contract the brood-nest if necessary, and compel the bees to go up into the sections. When the first super is nearly full of honey (do not wait until it is capped), raise it up and put an empty super under, or between the first one and the brood-nest.

By the time they need more room again, the first one you put on the hive will be completed and you can remove it, drive the bees out, and carry it into the honey-house, empty it and refill with new sections, and put it where needed.

As the season draws to a close, collect your unfinished sections together as much as possible, and place them on the strongest colonies; take dummies or contracting boards out of the other colonies and replace them with frames filled with comb foundation, and you will very likely get some nice combs to extract, and the empty combs will come in handy next season for swarms.

Clean all propolis off your sections, and grade your honey; select the best quality and crate it by itself; then select No. 2, crate and mark it; those partly full or unfinished, you can extract and use them again next season, or cut them out and sell as chunk honey, just as you choose; but it does not pay to use any sections that are daubed and stained.

Now is the Time to prepare for disposing of the anticipated honey crop, which, if it comes at all, and in its usual way, will leave but little time to provide the necessary receptacles for marketing. When getting ready to order the proper shipping-crates, pails, kegs, cans, etc., needed to contain the honey for shipment and delivery to the consumers, do not forget to include a liberal quantity of the "Honey Almanacs." These should be generously distributed in advance, if possible, where you expect to sell honey, and then leave an extra copy when the honey is delivered, to be handed to a friend or neighbor of the purchaser of the honey.

Nothing yet published in the line of apiarian literature has so much aided the producer of honey to dispose of his crop, as these magnificent "salesmen"—"Honey Almanacs;" and when their trifling cost is considered, it will be found to be the most inexpensive way of advertising for the home honey market.

Send 5 cents to this office for a sample "Almanac," with a host of excellent unsolicited testimonials from those who have tried the "Honey Almanacs," and hence know and appreciate their great value as an aid in creating a demand for honey in every locality. Then try at least 100 copies, and let them speak for themselves among your desired customers.

See the last page of this number for prices, etc.

GLEANS OF NEWS.

In New Zealand and Australia the seasons are the reverse of ours. There the honey harvest is gathered during our winter, and there bees are now in winter quarters. A protracted drouth has prevented the bees from gathering much honey, and in fact they have needed *food* in some localities. The New Zealand *Farmer* for April sums up its estimate of the honey crop thus :

From the few reports yet to hand, and from private sources, we learn that throughout New Zealand the crop of honey harvested has been very variable. In some parts it has been quite up to or a little above the average, while in other parts—and these appear to be the majority—it has been considerably below the average ; so that, judging roughly, we believe, on the whole, the aggregate crop will not reach more than ⅓ or ⅜ of an average season's crop. In the Australian colonies, from the few reports to hand, we gather that the result of the season's work is somewhat similar to that of New Zealand. We learn that in some cases there has been a good taking, when in others again the season is almost a failure. We certainly anticipated, in the early part of the season, that the yield for New Zealand, at all events, would have been much above the average ; and no doubt it would have been but for the fact of the large portion of the honey not being extractable.

Basswood from the Seed.—On page 148, Mr. C. F. Miller asks for information about growing basswood trees from the seed, and in reply thereto we now offer the following, taken from one of our many agricultural exchanges :

In growing basswood from seed, a little shade is usually necessary while the plants are young and making their second and third set of leaves. Gather the seed in the fall as soon as ripe, and then mix in about as much pure sand as there is of seed. Place all in boxes and then bury in some dry place in the open ground, covering only a few inches deep, or deep enough to keep out the mice and prevent alternate freezing and thawings.

In the spring, as soon as the weather is favorable, sow seed and sand together in wide drills, made with a hoe, and about the width of the blade. Cover with fine, light soil to the depth of a half-inch, or a little more, then spread brush along over the rows, just thick enough to give a little shade to the young plants. When the plants are 4 or 5 inches high, remove the brush and give frequent cultivation during the summer.

Wild rabbits and many other animals are fond of young basswood plants, and this is probably why so few seedling trees are found in the woods.

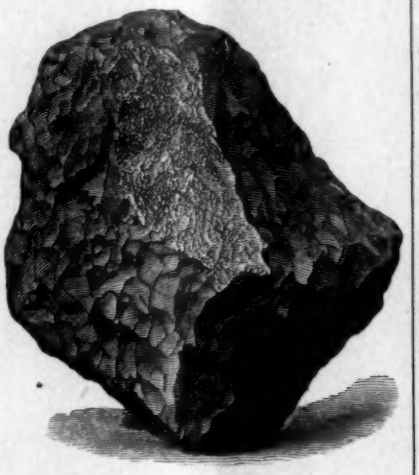
We trust that the above will fully answer the querist, and many others who have enquired as to the *modus operandi* in growing basswood from seed. Let all who can do so, endeavor to have plenty of these young honey-trees in their neighborhood, to furnish the bees with an abundance of nectar in due season.

A Heavenly Visitor.—Hon. Eugene Secor, of Forest City, Iowa, has presented us a stone—a visitor from some heavenly body. Of it he remarks thus :

This Aerolite was found in Winnebago County, Iowa. It fell in a meteoric shower on May 2, 1890. The largest specimens found, weighed, respectively, 80 and 66 pounds. They were imbedded in dry, hard prairie about 3 feet. Two, weighing about 10 pounds each, were also found. Smaller ones, varying in size from a pea to a goose egg, were found, scattered over the prairie for a couple of miles west of where the large ones fell. All resembled this one both in outward appearance and inside structure. EUGENE SECOR.

We shall prize it as a treasure. What an immense journey it must have made to get to our planet ! Where did it come from ? is the question. As no one can answer it, it will always remain a question.

We have prepared an engraving from a photograph sent us by our friend Secor, of



the one weighing 66 pounds, and here present it to our readers.

It resembles the light gray granites in appearance. The outside of the pieces is blackened, and it does not easily rub off.

It feels "heavy," and if it came from other heavenly bodies, it proves that they are composed of similar material to our earth. This is a very natural conclusion, however, if the earth was originally thrown off from the sun when in a red-hot condition. When contemplating these things we are lost in wonder, and must conclude that we know but little of our surroundings, as well as of our past, present and future.

☞ Jacob T. Timpe's descriptive Circular and Price-List for 1890, of the five-banded Golden Italian Bees is on our desk. His sample bees sent to us was noticed on page No. 291.

Clubs of 5 New Subscriptions for $4.00, to any addresses. Ten for $7.50, if all are sent at one time.

Statistics.—The usual spring report of statistical information is given in *Gleanings* for June 1, and is summed up as follows :

A summarized statement is as follows : The average percentage of loss among the special reporters during the past winter is only 8¾ per cent.

By referring to the statistics of a year ago, we find that the loss was 9 per cent. We expected to see a smaller percentage for this year.

The only losses, with few exceptions, that occurred during last winter, of any account were from over-breeding and consequent starvation. If we eliminate this cause of mortality, the percentage will probably be very low.

The average loss in the vicinity of the reporters, we find to be 14 1-6 per cent. Last year at this time it was 17 per cent.

Perhaps it will be interesting here to compare the average losses of the three preceding winters, since we began the department of statistics.

The special reporters' loss during the winter of 1887 was 16 per cent. ; during 1888, 9 per cent. ; during the winter of 1889, 8¾ per cent.

The locality losses for the winter of 1887 were 33 per cent. ; for 1888, 17 per cent. ; 1889, 14 1-6 per cent. It is to the credit of the books, periodicals, and progressive apiculture, that the winter losses have been decreasing.

Although the reports do not show it, we notice by correspondence that there has been a heavy loss in the region of Gallupville, N. Y., many bee-keepers losing all their bees.

One bee-keeper said his Italians, because they gathered nothing but white stores, wintered beautifully, while his blacks and hybrids, having gathered a lot of honey-dew and buckwheat, almost all died—a great score for Italians, because they will get white stores if there is any possibility of doing so.

We also gather from correspondence that there have been quite heavy losses in certain parts of Minnesota.

It is Often quite important to know the colony from which a swarm has issued, when such has not been noticed when issuing. Dzierzon prefers this method of ascertaining :

After it has been hived and removed to its new stand, let a cupful of bees be taken from it and thrown into the air, near the apiary, after having sprinkled them with flour ; they will soon return to the parent colony, and may easily be recognized by their standing at the entrance fanning, like ventilating bees.

☞ "Frank Leslie's Illustrated Newspaper" for last week contains 14 pages of handsome illustrations, not to include those in reference to fashion and other specific subjects. Some depict summer pleasure haunts in southern Michigan, and a double-page illustrates the new town at the foot of the Cumberland Mountains in east Tennessee.

If the Surplus Cases are on before the honey flows, swarms will be less numerous, more especially if the sections are furnished with foundation, to attract the bees, and the entrance enlarged to aid ventilation.—*Western Bee-Keeper.*

A June Morning.

BY MRS. M. J. SMITH.

Hark to the basso of bumble-bees
Out in the new-blown clover!
Bumble-bees, *honey-bees* in their flight,
Skimming the wide fields over,
Hiding in buttercup's golden heart,
Then in a bed of daisies,
Laden with gold-dust, full of sweets
Gathered in flowery mazes.

Hark to the concert! The merriest birds
Down in the orchard greenery,
Glad as ourselves, are welcoming back
June, with her gorgeous scenery.
Little ones peep over feather-lined walls,
Chirping a glad good morning,
Peering 'twixt trembling pearls, to see—
Pleased with the earth's adorning.

All of the flower waifs, great and small,
Straighten and grow in sunlight,
Roses are fragrant, and see, oh, see
Lilies with petals snow-white.
Hundreds of tiny swelling buds,
Each of them with a mission,
Welcome the zephyrs and sunbeam's gold,
Making our earth elysian.

Nature is clad in her best array,
Taking her yearly outing;
Who could be sour or cross to-day?
Who could be sad and doubting?
Who could go scolding or freting, sure?
Who could greet sharply a brother,
On such a beautiful day, when all
Out-of-doors smiles to each other.

—*Vick's Magazine.*

QUERIES and REPLIES.

Contracting Brood-Chambers, and Using Queen-Excluders.

Written for the American Bee Journal

QUERY 711.—1. Does it pay to contract brood-chambers in producing comb honey? 2. If it does, is a queen-excluder between the brood and sections necessary?—Ohio.

No.—MRS. L. HARRISON.

1. Yes. 2. Yes.—EUGENE SECOR.

1. It pays me. 2. I think so.—R. L. TAYLOR.

To both questions, I say decidedly, *yes*.—C. H. DIBBERN.

1. Yes, when hiving new swarms. 2. Yes.—G. M. DOOLITTLE

1. Most assuredly. 2. It is not absolutely necessary, but very desirable.—A. J. COOK.

1. If you want to feed your bees for winter, yes; if not, no. 2. Yes.—M. MAHIN.

1. It does, if the surplus honey is wanted in the supers. 2. Yes, unless you want brood in the sections.—A. B. MASON.

1. It does with average sized colonies. If the brood-chamber is not crowded, the bees will not work in the sections. 2. It is not absolutely necessary.—J. P. H. BROWN.

1. Yes. I think that it does, in the way and manner I have often described. 2. I consider a queen-excluder a necessity in all cases.—J. E. POND.

1. With the hive I use, I do not think that it would pay me. 2. If you contract the brood-chamber to any extent, you will want an excluder.—H. D. CUTTING.

1. Only in early spring. Excessive and prolonged contraction should be carefully avoided. 2. I have never found it necessary (except in one or two abnormal cases) to use an excluder.—WILL M. BARNUM

1. I do not know. I am afraid not. 2. I have not used one, even when contracting. An excluder is needed over a new swarm, if much contracted.—C. C. MILLER.

1. You can contract and obtain more clover honey, but at the expense of a fall crop, and a dwarfed colony the final result. I do not contract. 2. Yes, most assuredly.—J. M. HAMBAUGH.

What is now meant by "contracting the brood-chamber" is accomplished by removing all the frames from the brood-chamber but 4 or 5, and filling up with division-boards, and confining the queen to the diminished apartment by means of a queen-excluder. In most localities, the plan is a mistaken hallucination, because at the close of the honey-season, the colonies are left in an impoverished condition, and must be fed up at an expense and trouble, greater in the aggregate, than the gain in surplus has been. Give me a brood-nest "contracted" with brood and honey at the commencement of the surplus flow, and I will put them for profit against anybody's bees.—G. W. DEMAREE.

1. Ask Mr. G. M. Doolittle, who first introduced to bee-keepers the method of contracting brood-chambers in producing comb honey. Ask any of our leading bee-keepers of to-day, who are making the business a success. Yes, it pays even to fuss with division-boards and dummies; but when bee-keepers get to using a properly-constructed storifying hive, it will pay better, and the industry of bee-keeping be made a profitable one, where, by our old methods and fixtures, failure has been the rule to make the business pay. 2. Yes, but not until a storifying hive is better appreciated, will bee-keepers know how and where to use a queen-excluder to advantage in producing comb honey.—G. L. TINKER.

1. Yes, sir, it does pay, even when you have to do it by the old round-about method of taking out combs and replacing with dummies. 2. A queen-excluder is not necessary simply because you are contracting, but it has so many advantages in various ways (one of which I might mention is preventing the accident of removing the queen with the surplus honey-sections), that it always pays to use queen-excluding honey-boards at all times and in all places. No progressive bee-keeper to-day should think for a moment of producing comb honey without practicing the contraction system.—JAMES HEDDON.

1. If you want to have all the surplus honey carried into the supers, it will pay to contract the breeding apartment, to accomplish this. 2. Although it cannot be said to be absolutely necessary at any time, still it is often desirable to use a queen-excluding honey-board between the breeding apartment and the surplus-honey receptacles.—THE EDITOR.

☞ If any one wants a club of two or more weekly or monthly periodicals, besides one or both of our Journals—send us a Postal Card, and we will then quote the lowest possible price, by return mail. The number is too great to enumerate.

CORRESPONDENCE.

QUESTIONS.

Stinging Qualities of Bees—Other Queries Answered.

Written for the American Bee Journal

BY G. M. DOOLITTLE.

A correspondent writes: "I see it stated by quite eminent authority that the black or brown German bees, as they are variously termed, are no more liable to sting than are other varieties. Do you find this to be so?"

In replying to this question, I would say that the answer depends very largely upon the "other varieties" with which they are compared. If they are to be compared with the Italians or the Carniolans, then all my experience goes to prove that they *are* far more liable to sting than either of these varieties. I am not afraid to venture the assertion, that any ordinary person would receive three stings in handling the black bees, to where they would received one in handling the two above-named varieties, when using the same care alike on each.

If they are to be compared with the Syrians or Cyprians, then I would say that the ordinary individual would be apt to be stung the most with the latter, yet the same behavior on the part of the apiarist would provoke one to sting, while the other would not resent such behavior at all.

When Mr. Benton wrote about the Cyprians being peaceable, he said something about their not stinging persons who walked about their hives, if my memory serves me rightly. Now should any one stand in front of a black colony of bees for ten minutes, right in their line of flight, he would be apt to be told very forcibly to get out of the way, long before the ten minutes were up; but with the Cyprians, this seems to be no provocation to sting in the least, for they will quietly go around a person all day without a thought of stinging, and the same holds good with the Syrians.

Again, when opening a hive, the Cyprians will allow you to do this, where done with care, without smoke, but if we try the same on a black colony, they resent it by the points of many stings. On the contrary, if we use smoke with the black bees, in just the right quantities, they are brought into subjection, or even stampeded out of the hive, should any accident occur in manipulation; while the Cyprians know no fear of smoke, unless poured on them all the while, and, should only a small accident occur, hundreds of stings would be the result, unless the

apiarist was so protected that it was impossible for them to get at the person. They will crawl into the pockets or any opening in the clothing, only to sting when they come out, whether in a room rods from the hive or close to it. Hence, I should class the black bees as being about medium as to stinging.

PREVENTION OF INCREASE.

Another correspondent wishes to know if he can prevent increase by removing the old queen from a colony at or near the swarming season, and allowing them to rear another. This would be a doubtful practice, it seems to me. The only plan by way of removing the queen, which I have made a success worthy of repeating, has been to allow the bees to swarm, and, when returning them, take away the old queen. When the first young queen hatches, the bees will make calculations for more swarming, which will be announced by the piping of the queens.

I then go to the hive, open it, shake all the bees off each frame in front of the hive, and while the comb is free of bees, cut off every queen-cell I can find. In this way we are sure that no after-swarming will result, if we have taken off every cell. In doing this, we will find the cell which has hatched, by the cover being off. If we find others with the covers off, it will be best to keep watch of the hive for a day or so, for sometimes a colony swarms from having more than one queen at liberty at the same time, though as a general thing such young queens are all but one dispatched at once, or in a very few hours at least.

While this plan will work, and give a fair yield of honey, yet I believe a larger yield of a better quality of honey can be obtained where only one swarm is allowed to issue from a colony, the same being hived in a different hive from which it came.

REMOVING THE BEE-STINGS.

I am asked by still another correspondent, "What do you do when you are stung, and how do you remove the sting?"

Well, if I am stung in a place where it hurts too badly, as it sometimes does when stung at the roots of the finger-nails, I generally groan once or twice and dance about a little, when I go to work as if nothing had happened. It is a rare thing that I am stung in the face, as I always wear a veil when working with the bees, and, when in the apiary and not working at the hives, I can generally dodge any bee that tries to sting me, or get it off after it strikes and before it stings. A bee must lay hold, as it were, to sting, and an experienced person will know the second a bee alights on him whether it intends to sting or not, by this laying-hold feeling. Many persons strike at or kill a bee that has merely dropped on the hands or face to rest.

Now, about removing the sting: Some recommend using the thumb-nail, a pair of tweezers or the blade of a knife. I use none of these, as they are all too slow. Two-thirds of all the stings which I get are removed before the lance strikes deep enough to cause any pain, and this "laying-hold" feeling enables me to do this. As soon as I feel this, I know that I am to be stung, and at that instant, an instinct comes over me which causes me to rub the place where the bee is against my clothing, thus crushing the bee, and, if the sting has been thrust, removing it at the same time.

If the bee is on my hand, it goes down against my clothing at my hips or near the knee, whichever will reach the position the bee-occupies; if on the face or neck, then the sleeve on the fore-arm goes to the place and rubs bee and stinger off. In this way, one-half or more of the bees which intend to sting me are killed before they have had time to push their lance into the skin. Since I have learned these things, I do not receive one sting that affects me any, to where I had 20 formerly. Try it, reader, and see how easily it is done.

Borodino, N. Y.

BEE-SPACES.

Many-Banded Bees—The Spacing of Combs, etc.

Written for the American Bee Journal

BY REV. W. P. FAYLOR.

On page 365, Dr. C. C. Miller has some things to say about my communication on page 313. His review is partly a eulogy, and partly a criticism. Though he did not reconize my standing, I will not refrain from calling him "Doctor." He admits that there was something in my article, when he says: "I have been much interested in reading the article."

That "the black bee is rapidly giving away to the 4 and 5 banded Italian," the Doctor hardly thinks is correct. I would like to know why it is that our best breeders cannot keep up with their orders in sending out queens. Is it not because their bees are gentle and handsome?

The editor of the *Bee-Hive*, in his last issue, says: "It is a fact that beauty in bees over-balances all other qualities with the majority of bee-keepers. Send out handsome bees, and customers are always satisfied." That tells it exactly. But if Dr. Miller does not wish to advance his bees in point of color, I will not quarrel with him about that. The prettier I can get mine, the more pleasing to me.

SPACING THE BROOD-COMBS.

About the proper distance to space combs, the Doctor admits that I may be right; but when he says, "Even if we should find 1¼ inches the rule, the advocates of closer spacing might say that bees left to themselves will use a spacing that will allow the building of drone-comb," the Doctor is shifting. The fact is, that when the swarming-time comes, the bees will have drones, close spacing, wide spacing, or no spacing at all, even if they are compelled to tear down one comb to make room for another.

If the reader wishes to know whether the bees build brace-combs more readily where combs are closely spaced, all that is necessary to do is to go to a hive of full workers; take two combs and place them so as to nearly touch each other. In 48 hours notice the result. Do this when the bees are storing honey.

NUMBER OF CELLS TO THE INCH.

Dr. Miller says: "Mr. Faylor is a very brave man to intimate that bees, of their own accord, build worker-cells larger than 5 to the inch;" then adds: "Are all the books and observers of the last hundred years in error on this point?" Yet in the same reply he continues: "Bees do not build combs exactly 5 cells to the inch, but *about* (notice how accurate) four and four-fifths inches. Now, I ask the reader, what can you think of such reasoning as this? Prof. Cook says: "The diameter of the worker-cells averages little more than one-fifth of an inch." (See his Manual, page 105.*) It might not be amiss for me to say that if Dr. Miller's book gives 5 cells to the inch, he should have it revised.

Yes, sir, I am "fully posted" on Mr. A. I. Root's position on this; and I think that his latest foundation machines make the cells as much too small as some of the old ones made the cells too large. I should like to know who, besides Mr. Root, as a foundation-machine builder, advocates 5 cells to the inch.

I enclose samples of foundation for the Editor, made on the Vandervort and Pelham mills. The Vandervort machine makes 4½ cells to the inch, horizontally, and 5 cells diagonally, which would average 4¾ cells to the inch. The Pelham machine makes four and three-fifths cells to the inch, and averages nicely each way. To my

mind this machine makes the best foundation, with very high side-walls, and yet has a thin base for the bottom of the cell.

Certainly Dr. Miller was wasting words when he said, "If Mr. Faylor does not want to lose reputation as a careful observer, he will do well to make some critical measurements, and send to the Editor." Why, can't any bee-man get samples of foundation and natural comb—and ascertain for himself whether I am correct? And as for reputation, I am not seeking after that; the reader can think that I am joking or telling the truth, as far as I am concerned; but I am settled on these points—worker-cells to be 4¾ to 4½ to the inch; combs spaced 1½ inches from center to center; and the handsomer and gentler the bees, is my choice.

St. Bernice, Ind.

[The samples of comb foundation accompanying the foregoing article measure just as stated. Dr. Miller surprised himself by taking some measurements, as was shown by the postscript to his article on page 365. We fully agree with the Rev. W. P. Faylor on all the points for which he contends in the foregoing article, and upon second thought we believe that Dr. Miller will do the same.

*This quotation is from page 105 of the edition published in 1884.—ED.]

BEE-TALK.

The Keeping of Bees and their Improvement.

Written for the American Bee Journal

BY J. W. TEFFT.

The breeding of honey-bees has become a scientific study, and all over the world men of intelligence and wealth are enlisting in the ranks with rapid succession. That it is an honorable business, no one will deny, for even clergymen are now engaged in endeavoring to raise the standard of the honey-bee family—the noblest of the insect kingdom. What bee-keeper is there who does not delight in handling his bees these delightful June days? It makes a man like himself and his family better, while the whole world looks brighter, and daily toil becomes easier. The wheels of thought are oiled with magnetism and animation, after a lively time with the bees, and perhaps a brash with a little "cyclone" of cross bees.

"How do you account for the increased interest in breeding fine bees?" queried Mr. Albert Daken, of Tully, N. Y., during a pleasant visit which we had recently. I replied, first of all, that it is attributable to the trials of Italian bees throughout the country; they startled the world by being great gatherers of honey, and many people think that their good qualities and record can never be excelled. They are wonderful bees; their wonderful performances set the breeders to thinking, and the one great object was to bring out a bee to dethrone them as the honey-bees! Breeders brought forward the Holy Land bee, the Palestine, Cyprian, Carniolan, Egyptian, Caucasian, and, lastly, the "invincible" bee, being a cross of the black and Caucasian.

Breeders of bees all over the country have been trying to out-do one another for the past 25 years, or since the grand circuit of the International American Bee-Association was inaugurated; and there is no telling what the ultimate result may be.

Another question propounded was this: "You recently purchased a few colonies of thoroughbred bees in Tennessee, to mate with your Caucasians. Now, why would it not have been just as wise to have sent some of your queens to be mated with some of the great honey-gathering bees?"

I maintain that the drone controls the action of the offspring more than the queen, bebause he is the stronger. This is true also in the human family, in nine cases out of ten. Again, drones cannot be shipped alive any great distance.

"Would you as a breeder of quite long experience, advise a young man with limited means to buy thoroughbred Italians, to mate with thoroughbred Syrians, in hopes of rearing a new type of bees, in preference to buying an equally good honey-gathering bee?"

No, sir. A man with limited means cannot afford to experiment. It is different in the case of Senator Doolittle and myself, and perhaps others. If I fail to get good results from my thoroughbred Caucasian drones from the first cross, I can cross them again, and get the honey-gathering instinct sufficient to overcome the thoroughbred desire to swarm. Thoroughbred blood, as all know, gives finish and hardy-staying qualities. I have been careful in my selection of Caucasian queens, to secure daughters of thoroughbreds that possessed as much honey-gathering action as possible, so that it would be necessary to make but one cross. Whether I will succeed or not, time will tell.

"You maintain that the drone controls the blood, finish and action in the honey-bee as well as in the human family. Will you please explain how you formed that idea?

From personal observations I can distinguish an Italian from a Cyprian, in ninety cases out of a hundred, by their actions. The gait and action is inherited generation after generation. There are but few exceptions even in great grand-sons or great grand-daughters.

"Then you do not regard a fine-blooded Caucasian queen of so much importance as a fine-blooded drone for breeding?"

Understand me—it is the intermingling of royal blood that produces royal results. I want the best of both that money can buy, and the outcome must be gratifying, as a rule. Life is too short to experiment to any great extent; but if we do not get out of the rut and experiment a little now and then, we will never have anything new.

"Do you maintain that the surplus chamber of a hive should be of the same depth as the brood-chamber?"

Yes, most assuredly. But why mention this subject now? You know that every useful invention has been carried out and perfected by the co-operation of many minds, or by the successive application of varied geniuses to the same object, age after age. The mechanic and editor must aid the bee-keeper, or he must stand still in his inventions or demonstrations; and the inventor and editor must aid the mechanic, or he will work without wisdom and with intolerant stupidity. Altogether, they solve intricate, masterly problems.

SPACING COMBS.

The Close Spacing of Brood-Frames in Hives.

Written for the American Bee Journal

BY J. E. POND.

Some years ago, when I gave the result of my experiments in close spacing of frames (and, by the way, those articles of mine were the first ever written on the point), I said, "I believe the principle would in time be adopted, and would work a revolution in bee-management."

I still believe, as I then stated, for while my ideas were then rather laughed at, as being impracticable, now they are being commented upon, as perhaps being of some little value. All I asked then was a trial; and I say now that I firmly believe that whoever gives the method a fair and honest trial, will become convinced that it will accomplish all I ever claimed for it, and more than can be accomplished by any other method, whether used for

comb or extracted honey; as a means of controlling swarming, or increasing the size of colonies when desired, of rearing and pure mating of queens, of preventing formation of brace-combs, etc. "Pooh!" every one will say, "he claims the earth." For reply, I say simply, "Try it, and be convinced."

Is the plan rational and in line with nature? I have always been led to believe that man was given brains to use, and, in bee-keeping, the best use he can make of them is to aid his pets where he can. "Father Langstroth" started the "ball a-rolling" with his frame; and now we can control and aid also.

In nature, the bees space their combs widely, for the reason that it gives them ample space for winter supplies. We do not need this space, for we can do what the bees cannot, namely, give all the space wanted, and just where it is needed. Now what we want is to use the brood-chamber for brood, and we do not need any winter supplies to be stored therein. By close spacing, we can accomplish just this, if we wish. It is not guess-work with myself—I have tried and proved it, season after season; and what I have done, any one can do also.

But "brevity is the soul of wit," and I need not enlarge on the point, as I have already said enough to, as I desire, start a discussion that will bring the matter to the attention of all experimenting apiarists. Who will give the method a thorough test, and a fair report of results?

North Attleboro, Mass., May 31, 1890.

THE CLOVERS.

Alsike and Its Origin—Honey from Clovers.

Written for the American Bee Journal

BY C. J. ROBINSON.

In reading the correspondence of bee-keepers, I observe that some have mentioned that differently named clovers afforded honey, and that it may be to advantage to cultivate certain species or variety of them.

The Alsike—so-called—has been tried by many, but the reports are conflicting. Its botanical name was so given from its being supposed by Linnæus to be a hybrid between white and red clover, but it is now known to be a distinct species. It is found native over a large part of Europe, and was first cultivated in Sweden, deriving its common name from the village of Syke in that country. In 1834, it was taken to England, and in 1854 it was taken to Germany, where it is largely grown, not only for its excellent forage, but also for its seed, which commands a high price.

In France, it is little grown as yet, and is frequently confounded with the less productive *Trifolium elegans*. In the official report of the World's Fair held at London in 1851 (if I remember correctly), mention is made of Alsike clover seed, which was exhibited in the department alloted the Swedes.

In 1853 or 1854, I received, among an invoice of seeds, a small paper of Alsike clover seed, sent to me from the now Department of Agriculture by our Member of Congress. I sowed it on rather dry land, and did not get a favorable opinion of it.

In 1870 I procured a few pounds of Alsike seed, and put it upon dry land, my object being to test it as a bee-forage plant. I was not highly enough pleased with Alsike to make further trial. I sowed timothy seed with the Alsike; the latter failed to grow much of a crop the second season. Alsike seed is possessed of lasting vitality. The reason for Linnæus supposing Alsike to be a hybrid, was because it is intermediate in size and color between white and red clover.

In "Les Prairies Artificielles," by Ed. Vianne, of Paris, we find the following (condensed here):

Alsike does not attain its full development under 2 or 3 years, and should therefore be mixed with some other plant for permanent meadows. It is best adapted to cool, damp calcareous soils, and gives good results upon reclaimed marshes. It is adapted neither to very dry soils nor to those where there is stagnant water. Being of slender growth, rye or oats are often sown with it, when it is to be mowed. In fertile ground, weeds are apt to diminish the yield after a few years, so that it requires to be broken up. It is generally sown in May, at the rate of 6 to 7 pounds of the clean seed per acre. Alsike sprouts but little after cutting, and therefore produces but one crop and one pasturage. The yield of seed is usually 130 to 170 pounds per acre.

It does not endure drouth as well as the common red clover, but it will grow on more damp and heavy soils, and it is said that it can be grown on land which, through long cultivation of the common clover, has become "clover sick."

Other vareties or species of clover secrete honey, but bees are not able to reach the nectar at the bottom of the tubes of the flowers. Bees have certain parts of the mouth—the *maxillæ* and *labium*, or lower jaws and lower lip, with their feelers (*palpi*)—elongated into a sort of proboscis; and the *ligula* is elongated, assuming the form of a filament capable of extension and retraction, and is folded up when not in use.

This is the organ called, by some, the tongue of bees, although the name cannot be regarded as very appropriate, it being a part of the *labium* or lower lip. The other elongated parts of the mouth serve as a sort of sheath for this organ, when it is folded up.

It is not tubular, and employed in the manner of suction, as has been supposed by many, but is more or less hairy, so that the honey adheres to it as it is rolled and moved about, and is conveyed up through the mouth into the honey-bag, sometimes called the first stomach, an appropriate receptacle, in which it apparently undergoes some change—without, however, being subjected to any process analogous to digestion, and is ready to be given forth again by the mouth.

I do not (please note) disagree with Prof. Cook in his remarks calling honey "digested nectar," but I do assert that honey is different from nectar in its natural state or when gathered; and the change is produced by passing through certain organs of the honey-bee, and the term "digestion" expresses the action correctly enough.

The idea that bees can be or have been bred into a "strain" that, different from other bees, gather nectar from red clover, is ridiculous. When it occurs that red clover secretes nectar so that the flower-tubes are nearly filled, the bees will work on the clover so long as they can reach the sweet in the tubes; so bear in mind, it is the kind of weather—not the kind of bees—that produces honey from big clover.

There is, in this country, red clovers known by different botanical names. The French clover (*Trifolium incarnatum*); also manmoth clover (*Trifolium medium*), which is cultivated under the name of sapling, or pea-vine clover, etc. These clovers are usually regarded as being the above mentioned species, but are, perhaps, a variety, or varieties, of the common red clover—*Trifolium pratense*.

Richford, N. Y.

THE BEE-SPACE.

The Correct Space—Experience with the Bee-Escape.

Written for the American Bee Journal

BY WM. L. DREW.

To query 709, regarding the size of the correct bee-space, Mr. Secor answers three-sixteenths of an inch, and the Dadants a scant one-fourth inch, which is about the same. In the June *Apiculturist*, an article in the *Review* is mentioned, recommending this same space—three-sixteenths of an inch—and Mr. Alley seems to sanction it. Now all this talk seems very strange to me, and I will proceed to tell why.

I have in my possession, and have had in use for several years, some 15 Heddon honey-boards which were in-

tended to be queen-excluding by placing the slats just three-sixteenths of an inch apart. The slats are but five-eighths of an inch wide, so as to reduce the variance of this space caused by lhe swelling or shrinking of the wood. The boards are exceedingly well made, and the slats are very accurately spaced. As queen-excluders, they are commonly successful, but these boards are now thrown aside. Why? Because the bees *will* persist in almost absolutely filling the space between the slats with what seems to be a mixture of glue and wax. This is usually arranged in a rough attempt at vertical cells, running through the spaces, and closed like the base of a cell either at the top or bottom, or somewhere in the middle of this space.

I have also regular Heddon honey-boards with slits spaced three-eighths of an inch apart, which have been in use the same length of time as the others, and the spaces are comparatively free of all stoppage. There is some comb in these spaces, but never any glue.

Now the question arises, if bees will solidly fill a three-sixteenths-inch space between the slats of a honey-board, why will they not—and will they not—do the same thing in the same space above the brood-frames or between section-cases?

BEE-ESCAPES—UNCAPPING.

Will some one who has had in practical use the Reese bee-escape, please tell us if the bees ever trouble in uncapping comb honey in sections when the escapes are put on. We do not want any theory on the subject—we want *experience*. We are pretty safe in presuming that the Reese and the Dibbern bee-escapes will work alike in this regard, but the Reese escape has been in use a short time, and the Dibbern never has.

Newton, Iowa.

WINTERING.

Suggestions Regarding Bees in the Cellar in Winter.

Read at the Ohio State Convention

BY F. A. EATON.

I will try to give a few of the points of advantage in cellar-wintering. In the first place, it gives one in this northerly latitude, the privilege of using the most convenient and handy of all hives, the single-walled Langstroth; best for summer and spring, because the rays of the sun penetrate and warm it the most quickly. Then, it is far the most convenient for all manipulations by the apiarist, compared to the large, double-walled hive.

The cellar is the only safe way known for wintering bees in any single-walled hive. The bee-keeper who makes a specialty of bees, or one whose bees are his main hope of support, if he is a man who has any care or solicitude for the queen and the little workers, he does not want any guess-work about his bees coming through the winter, for he may grow gray from worry in one short winter.

Bees should be prepared for the cellar in September, by seeing that all colonies light in stores have a plenty. Feed them up to 25 or 30 pounds; and one of the best ways to feed at this time in the fall, to prevent robbing, is by removing empty frames and supplying frames of sealed honey. I find that natural stores are the safer for wintering in-doors, provided that the proper conditions are acquired in the cellar. Your cellar should be an under-ground one, as an up-ground repository is entirely too sensitive to the changes of the weather.

A good, dry, under-ground cellar can be kept very near the desired temperature all winter. The bee-cellar must be strictly a *bee-cellar*—not a cellar for general purposes, filled with vegetables and what not, subject to disturbance by too frequent visits. It should be a perfect dungeon; there should not be the slightest ray of light, or the bees in their warm and normal condition will fly to it and never get back to their hives. I had a farmer neighbor living a few miles away, who came to me last spring and asked, "How does it come that my bees die in the cellar?" I heard that he wintered them that way, and supposed it was the best. He never read a bee-paper. I asked him what kind of a cellar he had for bees; he replied, "O, I have a good one; taters and apples never freeze in it, and then I give them plenty of light so they could find their hives."

To start a tier of hives, place two 2x4 scantling on the floor of the cellar, just far enough apart to set a hive on, and far enough from the wall to admit a person between the wall and the hives. Now place two more scantling in the same way, about 6 inches from the first two; this gives room for reaching in between the two tiers to place the blocks under the hives.

It is now ready for the hives to be carried in. To winter successfully in the cellar, the hives must have loose bottom-boards, and they are in the best condition when the top is hermetically sealed by the bees.

Upward ventilation is very injurious, and is liable to cause bee-diarrhea; but if it did not cause that disease, it would be ruinous to the bees toward spring when they begin to breed. They could not raise the temperature inside the hive above that of the outside, as there would be a constant circulation of the air to carry off the heat.

Select a cool day, when the mercury is a little below freezing, and, if possible, an experienced person, or at least one that is not nervous, to help carry them in. They should be carried with great care, so as to cause as little disturbance as possible.

Remove the roof of the hive in the yard, as it would take up unnecessary room in the cellar. Have a basket of sawdust with you to close up the entrance of the hive with, while you are carrying them in. Build up the two tiers on the four scantlings prepared as you go along, placing the backs of the hives in the two tiers together, and build them up as high as the cellar will admit. You should have a lot of oblong blocks one inch square prepared ahead.

As fast as a hive is put in its place, raise it from the bottom-board, and place one of these blocks under each corner. This raises the hive one inch from the bottom all around, and gives all the ventilation necessary, which is a good circulation of air under the frames. It also prevents molding. With this under ventilation only, there is no sweating, or condensing of moisture, which is so injurious and hard to prevent out-of-doors. Who has not seen the water trickle from the entrance of out-door hives on a cold day, and freeze in icicles, or close up the entrance entirely? By this raising of the hive from the bottom-board, it gives plenty of room for dead bees to drop, and not clog up the entrance.

The cellar needs but little, if any, ventilation—the only ventilation I give is to open the door after dark, two or three times a week, and leaving it open a few hours until the air is changed, and the mercury gone down a couple of degrees. The proper degree at which to keep the cellar is no longer an experiment, as it has been well established by many to be near 45°.

Cellar-wintering is the only plan which places bee-keeping on a solid basis with other business. Who, in other business, would invest money in anything that would be likly to lose the entire principal, or nearly so, every year, nine times out of ten, as it is with out-door wintering? True, there are a few experts like Mr. A. I. Root, who can winter bees out-of-doors successfully, but there are many who cannot. Therein lies a secret, why so many beginners fail. They start with but few bees, which is proper, the fewer the better—not enough to pay for fixing up a cellar to winter in, thinking that they will do so when they reach their

fifties, but, alas, they never reach the desired goal. Winter after winter they lose most of their bees, until they at last give up in disgust.

The saving of expense is a matter to be looked after in wintering. Bees should be placed in the cellar early in November, and left in until nearly April 10, of course varying slightly with the season. During this time they will only consume from 5 to 10 pounds of honey per colony, coming out with plenty of young bees hatched, and from 3 to 7 frames of nice brood; while bees out-of-doors will consume in a corresponding length of time from 20 to 30 pounds of stores, and be just fairly started to breed. Compute the difference of honey used, at the small sum of 10 cents per pound, and you have at least $2.00 per colony—an item on an apiary of 100 colonies, of the sum of $200. Is this not worth looking after?

Another expense is that of hives. For wintering out-of-doors with any degree of success, a chaff hive must be used, costing from $2.50 to $3.00 more than a good single-walled Langstroth hive, requiring on 100 colonies an investment of from $250 to $300, which is no trifling item. Does some one say, "a cellar costs something also?" True, an under-ground cellar large enough to accommodate 100 colonies would cost nearly $100—which still leaves a nice balance.

Bluffton, Ohio.

PRIZE ESSAY.

Extracted Honey—Its Great Value as an Article of Food.

Written for the American Bee Journal

BY A. N. CLARK.

The knottiest problem with which the producer of extracted honey has to contend, is to establish and maintain a reliable honey market. The only possible way to solve this problem is for *all* bee-masters to handle none but a fine article. Confidence once thoroughly established, the custom of consuming Nature's sweet will be almost sure to follow.

To obtain the best quality, extract from clean combs, from the supers, and not from the brood-chamber. If possible, avoid extracting from combs containing pollen in the bottom of the cells, as such pollen-charged honey has a disagreeable flavor. Keep the combs clean at all times of the year. See that the extractor and all other metal receptacles are free from soluble rust. In short, the utmost cleanliness is required from the time the combs are removed from the hives, until the honey is in the hands of the consumer.

RIPENING AND STORING HONEY.

As regards ripening, basswood honey may be extracted before the cells are completely capped, if immediately placed in a hot, airy room. By this method of evaporation, it loses some of its strong, and, to many, disagreeable flavor. But white clover, which is deficient in flavoring-matter at its best, should not be removed from the hive until thoroughly ripened; and unless the apiarist has the best of facilities for evaporating honey, he had better leave all honey, even basswood, to be ripened in the hive.

Annually, the quality of hundreds of tons of honey is ruined by improper storage. If a dry, warm room cannot be obtained, it should, on the day it is extracted, be placed in barrels or cans and sealed air-tight.

In using barrels, avoid whisky barrels, as they are usually charred inside, and the crystallized honey cannot be removed without disturbing particles of charcoal. Pine barrels or pails are objectionable unless waxed, as they impart a piney flavor. New oak-staves are subject to a similar objection; but when these barrels have once contained alcohol, they no longer impart a woody flavor to honey. Alcohol being a powerful solvent, it has dissolved out of the staves the free tannic acid, leaving the barrel in the best possible condition for a honey-receptacle.

In most localities, the best receptacles for home trade, are those of tin, well labeled, holding from one to twelve pounds. When put in glass, the honey should be heated and sealed while hot, thus preserving the liquid form longer than when put up cold. With glass vessels, *small* labels should be used, as clear, bright, liquid honey is more attractive than any printed label.

THE USE OF CRYSTALLIZED HONEY.

The apiarist should encourage the use of crystallized honey for two reasons: First, it is more convenient to handle; second, it proves its freedom from commercial glucose—the only adulterant that could possibly be used at present prices.

Yet, in spite of the fact that honey sells for less than sugar, if an apiarist uses sugar for winter stores, it will hurt his home market, no matter who he is, or who his customers are. Not only must the apiarist be honest in everything, but in many cases he must be more than honest.

With the wintering, swarming and crop failure problems to contend, to produce large crops, the apiarist needs to be a philosopher; but to readily dispose of large crops he needs to be an angel. (The present indications are that there are more philosophers than angels.)

Producers of extracted honey should in various ways call attention to the many uses of honey, its wholesomeness and cleanliness as compared with sugars, molasses, and syrups, and its economy as compared with comb honey.

It is a fact beyond dispute, that owing to the nastiness and greediness of those who handle the products of sugar-cane and glucose, that molasses, syrups and dark sugars are almost unfit for human food.

As the mineral poisons, chloride and muriate of tin, are sometimes found in white sugars; and as commercial glucose or grape sugar nearly always contains free sulphuric acid and lime, the only remaining wholesome sweets are honey and sorghum. Of course, the sugars contained in fruits are wholesome, but are not produced on a commercial scale.

While cane-sugar has greater sweetening power than honey, the latter has the advantage of being more easily assimilated by the digestive organs. In fact, honey is so natural a food for man, that good physiologists tell us that it is already digested for us, and all we have to do is to eat and assimilate. Cane sugar, on the contrary, must be converted to grape-sugar before assimilation takes place.

To substantiate what I have said regarding the comparative value of honey as a pure, clean sweet, I would say that Dr. Kedzie—our able and honorable State Chemist—at a meeting of the Michigan State Board of Health on Jan. 14, 1879, said that, as a general thing, sugars in Michigan were adulterated; that poisonous materials were used to color sugars, and that coffee sugars almost always contained lead salts.

Dr. T. D. Williams, of Chicago, stated that he has found sugar products almost invariably contaminated with lead.

As regards the use of sulphuric acid, the State Assayer of Massachusetts, says that he found as high as thirty grains of sulphuric acid to the pound of sugar.

Dr. Kedzie found in one sample of syrup, 141 grains of sulphuric acid, and 724 grains of lime to the gallon; and in another, which had caused serious sickness in a whole family, 72 grains of sulphuric acid, 28 grains of copperas, and 363 grains of lime to the gallon. If any one doubts the poisonous qualities of the above chemicals, let him administer a dose to a rat or worthless dog, and watch the effect.

Sugar manufacturers do not use poisonous chemicals because they wish

to injure the health of the consumer, but because it pays them to do so; to completely neutralize the poisons they use in process of manufacture would add to the expense of the product, and such a course would require more time and more skilled labor.

It is well for all to remember that honey is solely the product of Nature, and that Nature is more honest and less niggardly than our sugar-manufacturers. Nature has no motive for cheapening the cost of her products at the expense of quality. Every chemist knows that sugar-makers have just such motives, and such practices are more injurious to the health than sugar trusts are to the pocket-book of the consumer.

The late Dr. J. G. Holland, in treating on the subject of longevity, said: "By all authorities, honey has been esteemed the 'juice of life,' and carries far more merit than the fabled fountain of youth and beauty which Ponce de Leon sought in vain. Many aged philosophers, and among them Democritus, Pythagoras, and Pliny trace their length of days to the use of honey. Two persons in modern times are mentioned as having lived to the ages of 108 and 116, and who, during the last half century of their lives, for their breakfast took only a little tea sweetened with honey."

While I do not advocate discontinuation of the use of sugars for cooking and baking purposes, I think that under nearly all circumstances honey can be very profitably substituted for syrups and molasses, and in many cases it should be used where sugar is now used. Although the first cost of a gallon of honey is greater than that of a gallon of poor molasses, I think that in the long run the honey is the cheaper.

Few people take into account the number of hours of labor and pleasure they lose in the course of a life-time, consequent on their having partaken of unwholesome food; and again, the writer cannot too strongly urge honey-producers to handle nothing but a clean, well-ripened article of extracted honey.

East Le Roy, Mich.

SWARM-CATCHERS.

How to Make and Use them in Securing Swarms.

Written for the American Bee Journal

BY ROBERT CARVER.

Having read in the BEE JOURNAL the various articles under the head of "Swarm-Hivers," "Swarming-Baskets," etc., and failing to see anything that describes the kind of swarm-catcher which I use, I write:

My swarm-catcher is simply a tapering box, made of light material 4 feet and 10 inches long, and 14 inches wide by 19 inches high at the large end, and 10 inches wide by 4 inches high at the small end. The small end is so made that it will fit over the entrance to a hive. A wire-screen door fills the large end; the top and sides are mostly covered with wire-screen; the bottom is covered with thin boards, and is furnished with handles so that it can be quickly adjusted to a hive. I have 20 of these swarm-catchers, which, in swarming-time, I have scattered about the yard so that they will be convenient of access to any hive in the yard.

Now as to its operation: From 7 o'clock in the morning until 4 in the afternoon, watch for swarms; when a swarm starts out a catcher is quickly adjusted to the hive—the bees have no other way only to go into the catcher.

When the bees have done issuing from the hive, the catcher is taken away, closing the end so that the bees cannot get out. I then mark the number of the hive on the catcher, and carry it to some convenient place outside of the yard; the bees will soon cluster in the catcher, and can be put into a hive when convenient to do so, which should be within a couple of hours after swarming; but in case I am driven with swarming, I sometimes leave them until nearly night before hiving them.

In transferring the bees from the catcher to the hive, spread a sheet on the ground, place the hive on the sheet (so that any scattering bees can be shaken up to the hive), and take out the screen door from the large end of the catcher. Now take a few bees from the cluster, and place them at the entrance of the hive; as soon as a few bees get started in, they will give the signal of entering, which all the bees in the catcher will understand; then place them down in front of the hive as fast as they can pass in. The queen will usually find her way in with the rest of the bees without looking after.

Twenty swarm-catchers is sufficient for 150 colonies of bees. All that is required then, is a sharp watch for swarms, and all will be well.

Manton, Mich.

Chapman Honey-Plant Seed.—This plant has been commended by some of the most experienced bee-keepers in America, as being "a most valuable acquisition to the list of bee-forage plants." The seed may be scattered in waste places, or it may be sown in drills or hills like onion seed. We can furnish the seed, postpaid, at the following prices: Single ounce, 40 cents; 4 ounces, $1.00; 10 ounces, $2.00; or one pound for $3.00.

CONVENTION DIRECTORY.

1890. *Time and place of meeting.*

July 17.—Carolina, at Charlotte, N. C.
N. P. Lyles, Sec., Derita N. C.

Sept. 10.—Ionia County, at Ionia, Mich.
H. Smith, Sec., Ionia, Mich.

Oct. 29-31.—International American, at Keokuk, Ia.
C. P. Dadant, Sec., Hamilton, Ills.

Oct.—Missouri State, at Mexico, Mo.
J. W. Rouse, Sec., Santa Fe, Mo.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

International Bee-Association.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
SECRETARY—C. P. Dadant.....Hamilton, Ills.

National Bee-Keepers' Union.

PRESIDENT—James Heddon..Dowagiac, Mich.
SEC'Y. AND MANAGER—T. G. Newman, Chicago.



Death of a Lady Bee-Keeper, etc.

Miss A. B. Stone, for a number of years a subscriber for the AMERICAN BEE JOURNAL, died on May 13, 1890, from the effects of *La Grippe*.

The weather has been cold and dry all the spring until the middle of May; since then it has been warm and rainy. Everything looks favorable for a good honey season, and the bees are in good condition for the harvest. They are at work on pin-cherry and wild peas. I had my first swarm to-day. WILBER STONE.

Fall Creek, Wis., June 2, 1890.

Bees Doing Splendidly.

My first swarm came out on May 27, and the bees are doing splendidly now on dandelions and wild cherries. I had 14 colonies left out of 77. I have bought some bees, so I will commence with 31 colonies. Over half of the bees failed to winter in this county. I shall increase my apiary as much as I can this season.

FAYETTE LEE.

Cokato, Minn., June 3, 1890.

Good Prospect for White Clover.

I have 25 colonies in fair condition, but a number would have starved ten days ago, if I had not fed them. They are not as strong now as they were one month ago, but they are doing well on blackberry and raspberry. The prospect for white clover is good—it is beginning to blossom. I am greatly indebted to the AMERICAN BEE JOURNAL for what I know about bee-keeping. A. M. LAUGHLIN.

Normal, Ills., May 31, 1890.

Large Colonies of Bees.

I have at the present time many powerful colonies of bees, as the result of the new system of management. One of the best at this time occupies 40 brood-combs, with about 25 of brood. The number of bees is something extraordinary, and it is safe to say that it is the largest colony in the State of Ohio. All who have seen it, pronounce it the largest, and the strongest working

colony of bees they ever saw. The queen is a Syrio-Albino, one year old, and although the queens of this strain of bees are highly prolific, it is not all in the queen. The colony has not been fed, and has had no care except as advised in my new book.

We have also had a very unfavorable spring for breeding up, and many colonies about here have starved outright—one man losing 14 colonies in May. The fruit-bloom was scanty, and seemed to have no nectar. The weather has been cool, and we have had an unprecedented fall of rain.

I think that the large colonies are due to the form of the hive used, and the care given, and not to any system of feeding, as my largest colonies were not fed. I have also demonstrated, I think, that as large colonies can be bred on frames 7x17 inches, as on any larger size of frames.

G. L. TINKER, M.D.

New Philadelphia, O., June 4, 1890.

Basswood Stripped of Leaves.

The basswood is stripped of its leaves, the worm having just gotten under good headway on it. I would like to hear from other bee-keepers in regard to the basswood. Will it leave out again and bloom?

My first swarm came out on May 23. Who can beat that in Blue Earth County, Minn.? I had 8 swarms in May, and have 51 colonies at present. C. A. GOODELL.

Mankato, Minn., June 5, 1890.

Expects a Large Crop.

My bees never wintered better than they did the past winter. I put them into the cellar on Oct. 30, and took them out on April 12 and 14, all having wintered well but one colony that died. When I put them into the cellar there were 2 or 3 colonies or queens in one hive, and the next day I found a queen dead at the entrance of the hive. White clover looks fine, and I think that we will have a big crop.

C. D. BARBER.

Stockton, N. Y., May 31, 1890.

Colonies Slow in Swarming.

Bees are not doing so well this year, due to the cool weather we had in April and the first part of May; also owing to rain during the blossoming of the small fruit. The bees have so far gathered very little honey; some colonies have, after clustering out, destroyed queen-cells, and did not swarm. One party keeping about 30 colonies has had 10 swarms up to date, and this is the best done in this part of the county. Some with 30 to 40 colonies have not had a swarm yet this spring. We are in hopes that it will be better in one to two weeks, as the white clover is beginning to bloom, also blackberries, etc. WM. MOERSHEL.

Homestead, Iowa. June 1, 1890.

Wintered Well.

Bees wintered well, though the consumption of stores was the largest ever known; fortunately, they also had the largest supply I ever knew. The spring has been backward, and the weather bad for bees. White clover is beginning to bloom, and the prospect is good for a fair crop of clover honey. I had 2 colonies of bees to desert their hives, leaving both honey and brood. There were enough bees to have made good colonies—in fact, many more than some that are now strong and are storing honey. With one or two more showers, we are likely to have more swarms than we want, though more are expected in ten days.

S. N. BLACK.

Clayton, Ills., May 30, 1890.

Nectar Scarce—Wet Weather.

I wintered 21 colonies on the summer stands, and all came out strong. They killed their drones after fruit-blossoms. Nectar is scarce at present, as it is wet all the time. Corn planting is unfinished, and late. Bees are in good condition for basswood and clover. Some swarms have issued for my neighbors; I tried to keep mine back, as I did not want to feed them. I have not had a swarm to abscond in ten years. P. SHERIDAN.

Perrinton, Mich., June 4, 1890.

Still Feeding the Bees.

Bees are starving, yet I have lost none. I had a swarm on May 20. I am feeding the bees yet. Some have lost ⅔, some ½, and so on. T. C. KELLY.

Slippery Rock, Pa., June 2, 1890.

HONEY AND BEESWAX MARKET.

NEW YORK, June 5.—There is no comb honey on the market, but a small stock of basswood extracted and California; new Southern extracted is arriving, but the quality is mostly inferior. We quote: Extracted basswood and California, 7c; Southern, 65@70c per gallon. Beeswax, scarce at 26@28c.

HILDRETH BROS. & SEGELKEN,
28-30 West Broadway.

CHICAGO, June 4.—Demand continues good for strictly white clover honey, and our receipts are being taken as fast as they arrive. What little stock we have, consists of buckwheat in 1 and 2-lb. sections, which is dull and slow sale. We quote: White clover 1-lbs., 12½@13½c; buckwheat, 7@9c. Beeswax very scarce at 25@26c for bright, and 23@24c for dark. S. T. FISH & CO., 189 S. Water St.

KANSAS CITY, June 5.—The receipts of the old crop of comb honey have been quite liberal the last two weeks. Demand lighter, dealers only buying one case at a time. We quote: White 1-lbs., 13@14c; dark 1-lbs., 10@12c. Extracted, very slow sale; white, 5@6c; dark, 5c. No beeswax in the market.

CLEMONS, CLOON & CO.,
Cor. 4th and Walnut Sts.

CHICAGO, June 5.—Demand is now very light for comb honey, and will be for the ensuing two months. There is not much on the market, and very little of it is in desirable shape for the retail trade, being in supers and just as removed from the hive. Best brings 13@14c, and off-grades about 10c. Extracted, 6@8c. Beeswax, yellow, 27@28c.

R. A. BURNETT, 161 S. Water St.

MILWAUKEE, June 2.—The market for honey is in a fair condition. The old stock is getting out of sight, and values are sustained on choice qualities. We quote: Choice white 1-lb. sections, 13@14c; medium 1-lbs., 11@12c; dark 1-lbs., 9@10c; 2-lbs., normal. Extracted, in barrels and half barrels, white, 7@8c; dark, 6@6½c. Beeswax, 26@30c.

A. V. BISHOP, 142 W. Water St.

KANSAS CITY, May2.—The honey market is cleaned up. We quote: 1-lbs. white, 12@13c.; 2-lbs. white, 10@11. Dark 1-lbs., 8@10c.: dark 2-lbs., 8@9c. Extracted, white, 6@6½c.; dark, 5c. Demand good. Waiting for the new crop.

HAMBLIN & BEARSS, 514 Walnut St.

DENVER, May 5.—One-pound sections, 14@16c; extracted, 7@9c. Demand good and supply likely to be exhausted before the new crop comes in. Beeswax, 22@25c.

J. M. CLARK COM. CO., 1517 Blake St.

DETROIT, June 3.—Best white comb honey, 13@14c; other grades, 10@13c. Extracted, slow demand at 7@8c. Beeswax, 27@28c.

M. H. HUNT, Bell Branch, Mich.

CINCINNATI, May 1.—Demand is slow for comb honey at 10@14c. No choice white on the market. Extracted is in good demand at 5@8c. Stock is low.

Beeswax is in good demand at 22@26c. for good to choice yellow. C. F. MUTH & SON,
Corner Freeman & Central Aves.

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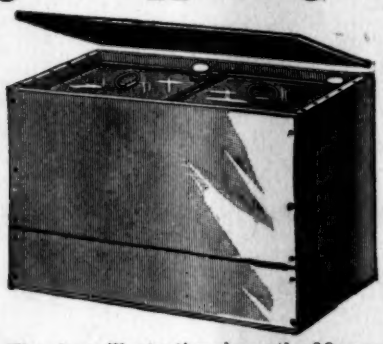
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